

**Work Order ID 59814**

Friday, June 11, 2010 10:47:21 AM



Page 1

Item ID: 41232-200-002-001

Accept



Setup Start



Revision ID:

Item Name: tube

Stop



Start Date: 6/11/2010 Start Qty: 10.00



Cust Item ID:

Required Date: 6/18/2010 Req'd Qty: 10.00



Customer:

Reference:

Approvals:

Process Plan:

*A*

Date:

*10-6-11*

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start



Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

41232-200-002

Rev A

100

0.00



CONVENTIONAL LATHE

Lathe Conv

Memo

0.00

Conventional Lathe

Turn as per Dwg 41232-200-0021 ☐ TURN BORE TAP DRILL 45/64" AND  
TAP 3/4"20*S.A. 10/06/27**8 0*

110

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

*S.A. 10/06/27**8 0*

120

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1- Mill as per Folio FA687 Rev: *A* & Dwg 41232-200-002 Rev: *A*☐  
2-Deburr*S.A. 10/07/23**8 0*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			




NOTE: Date & initial all entries

**Work Order ID 59814**

Friday, June 11, 2010 10:47:21 AM

Item ID: 41232-200-002-001  
Revision ID:  
Item Name: tube  
Start Date: 6/11/2010 Start Qty: 10.00  
Required Date: 6/18/2010 Req'd Qty: 10.00  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_




Sequence ID/ Work Center ID	Operation Description
160  Packaging Packaging	Receive & Inspect for Damage & Ma  Memo Ensure certificate of con
170  QC Quality Control	QC3- Inspect Part Finish  Memo
180  Packaging Packaging	Identify as per dwg & Stock Location  Memo

**Work Order ID 59814**

Friday, June 11, 2010 10:47:21 AM

Item ID: 41232-200-002-001 Accept   
Revision ID:  
Item Name: tube  
Start Date: 6/11/2010 Start Qty: 10.00   
Required Date: 6/18/2010 Req'd Qty: 10.00   
Cust Item ID:  
Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130  QC Quality Control	QC2- Inspect parts off machine FAI/FAIB  Memo	0.00 0.00		H.A 10/07/23		8	0		
140  QC Quality Control	QC8- Inspect parts - second check  Memo	0.00 0.00		22 10/08/03					
150  Outsource4 Outsource process - Anodize	Outsource process-Anodize per QSI017 4.1.10.1  Memo Issue P/O: 12331 <input type="checkbox"/> Black Anodize as per Dwg 41232-200-005 <input type="checkbox"/> Ensure Certificate of Conformity is attached	0.00 0.00							

Type " ser 2thru d curzi  
12

Run Start   
Stop 

BR10-7-27  
10

Dart Aerospace Ltd

W/O:		
DATE	STEP	PROC

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_

Resolution: \_\_\_\_\_

NCR:		
DATE	STEP	Description of NC Section A

NOTE: Date & initial all entries

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	59814
<b>Description:</b> Tube		<b>Part Number:</b>	41232-200-002-001
<b>Inspection Dwg:</b> 41232-200-002 <b>Rev:</b> A		<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article    ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.69	+/-0.030	0.692	✓			
4.94	+/-0.030	4.945	✓			
3/4-20	N/A	3/4-20	✓			
R0.44	+/-0.030	R0.44	✓			
0.61	+/-0.030	0.605	✓			
0.88	+/-0.030	0.880	✓			
0.063	+/-0.010	0.062	✓			
1.38	+/-0.030	1.375	✓			
0.69	+/-0.030	0.693	✓			
0.12	+/-0.030	0.127	✓			
Ø0.12	+/-0.030	Ø0.128	✓			
0.98	+/-0.030	0.978	✓			
0.25	+/-0.030	0.253	✓			
0.36	+/-0.030	0.358	✓			
0.37	+/-0.030	0.372	✓			
0.10	+/-0.030	0.095	✓			
R0.063	+/-0.010	R0.063	✓			
0.373	+0.017/-0.000	0.375	✓			
Ø0.34	+/-0.030	Ø0.341	✓			
R0.25	+/-0.030	R0.250	✓			
2.38	+/-0.030	2.380	✓			
3.81	+/-0.030	3.808	✓			

<b>Measured by:</b>	H.A	<b>Audited by:</b>	SL	<b>Prototype Approval:</b>	N/A
<b>Date:</b>	10/07/23	<b>Date:</b>	10/08/03	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	08.12.02	New Issue	KJ/DD	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

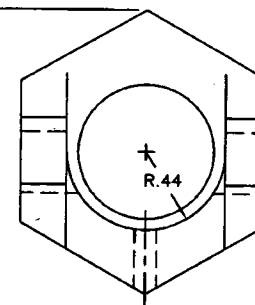
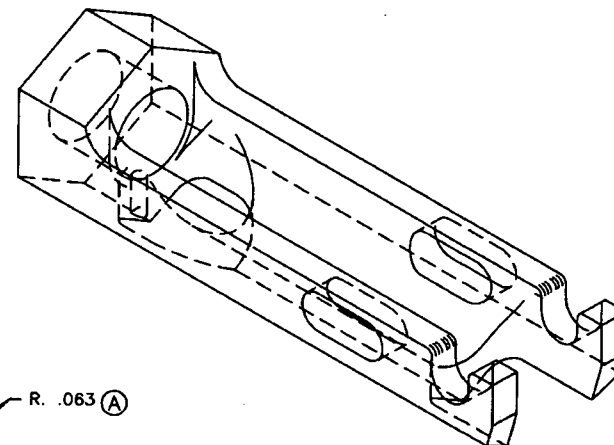
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





REVISION			
LETTER	DTSMAN	DATE	DESCRIPTION
A	DNN	2/17/03	ADDED SMOOTH EDGES TO -001 & -003; REDUCED LENGTH OF -003 BY .125"; ADDED DRAIN HOLE TO -001; INCREASED DIA. OF AFT SLOT ON -001.
			MINOR CHANGE - FAR 21.95
			CHECK D. MURPHY 2/17/03



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 59814  
2510-6-1

- DR. .12 DIA. DRAIN HOLE  
(NOTE: SPOTFACE IF REQ'D (A)  
TO DRILL HOLE)

① ANODIZE IN ACCORDANCE WITH MIL-A-8625, TYPE III, CLASS 2 DYED BLACK.

1	MS21209F4-15	INSERT			
	-005	PIVOT ARM 	1.00 DIA. x 3.56	2024-T4, T351 ALUM.	
	-003	LATCH 	1.11 x 3.50	2024-T4, T351 ALUM.	
	-001	TUBE 	1.38 HEX STK. x 4.94	2024-T4, T351 ALUM.	
	-005	PART NO.	STOCK SIZE	MATERIAL	MATL SPEC
NO. REQ'D PER ASSY		NAME			
LIST OF MATERIAL					
PROPRIETARY RIGHTS NOTICE THERE IS NO PROPRIETARY DATA IN THIS DRAWING. THE INFORMATION CONTAINED HEREIN IS THE PROPERTY OF THE COMPANY AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT WRITTEN PERMISSION FROM THE COMPANY. THE FOLLOWING DOES NOT APPLY TO VENDOR PRINTS.		UNLESS OTHERWISE SPECIFIED X ±.1 X ±.03 X ±.010 ANGLES 1/2°	DFTSM D. NELSON 2/18/02 CHECK D. MURPHY 2/18/02 STRESS PROJ. ENGR. HEAT TREAT FINISH 	TITLE STEP ACTUATOR COMPONENTS DWG. SIZE C SCALE 2:1 DWG. NO. 41232-200-002 SHT 1 OF 3	REV A
2	41232-200-001	NEST ASSEMBLY	Era Aviation, Inc.		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

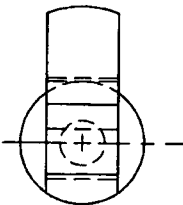
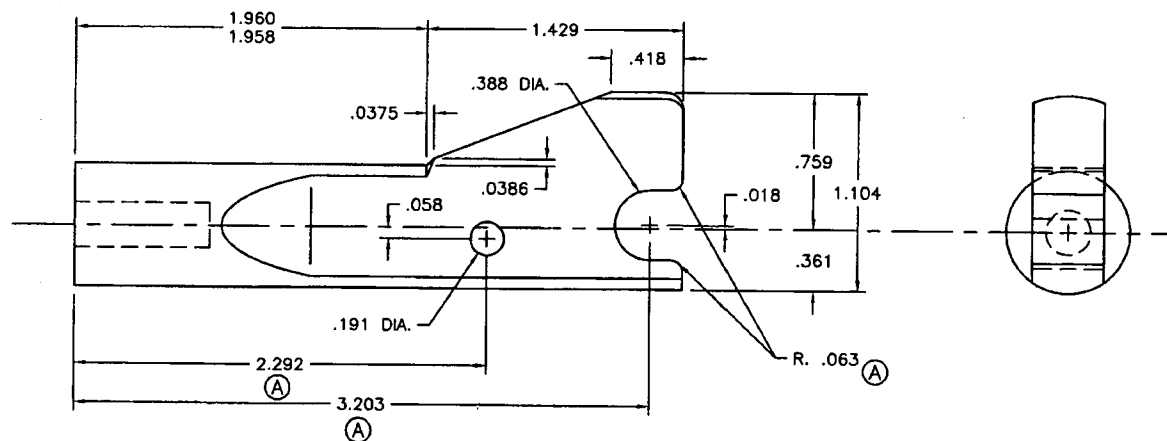
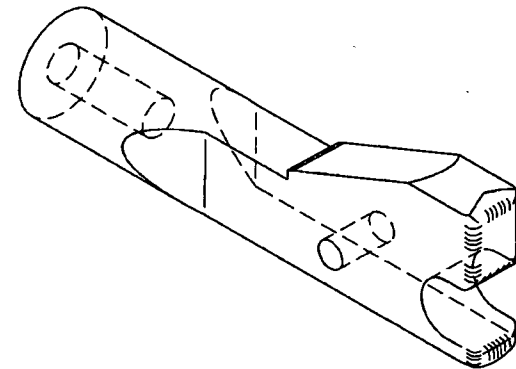
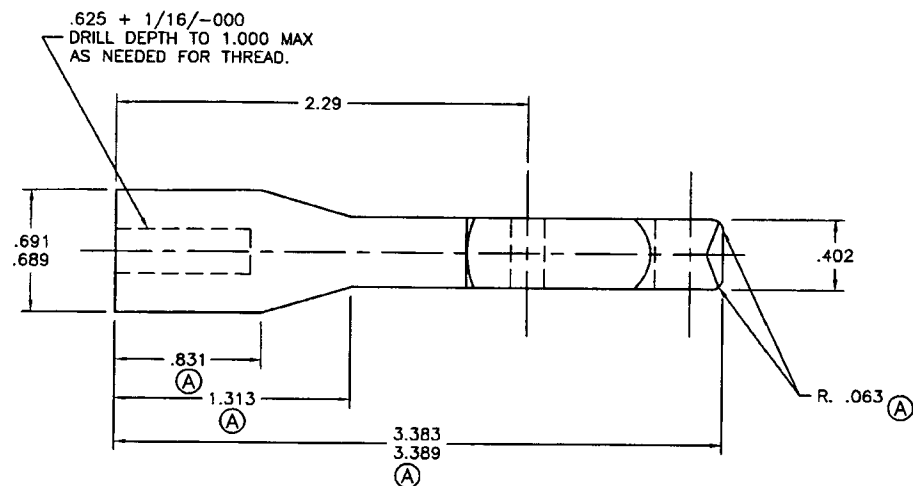
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





wk 59814

-003 LATCH

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GIVING DOES NOT APPLY TO VENDOR PARTS.

*Era Aviation, Inc.*

TITLE	SIZE	DRG. NO.	REV.
STEP ACTUATOR COMPONENTS	C	41232-200-002 SHT 2 OF 3	A

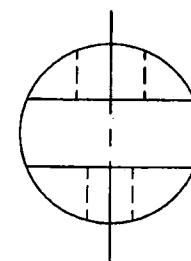
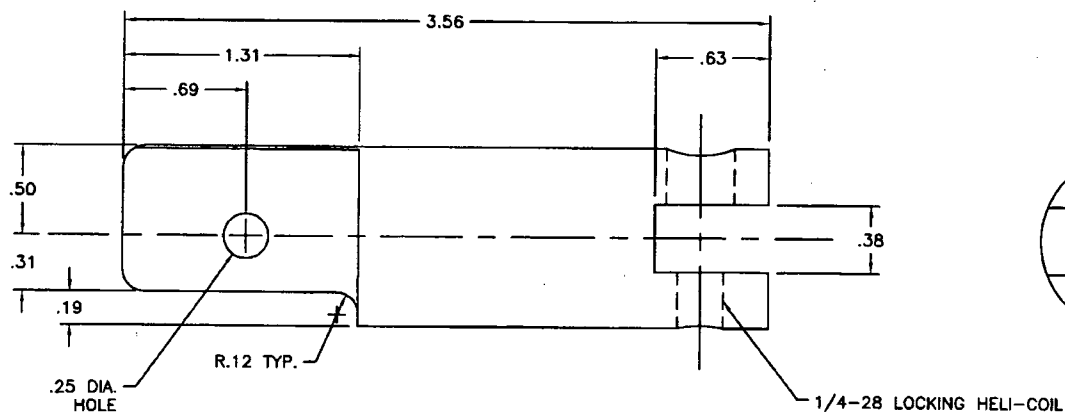
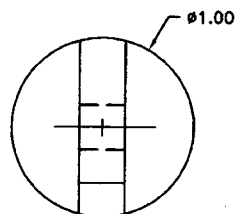
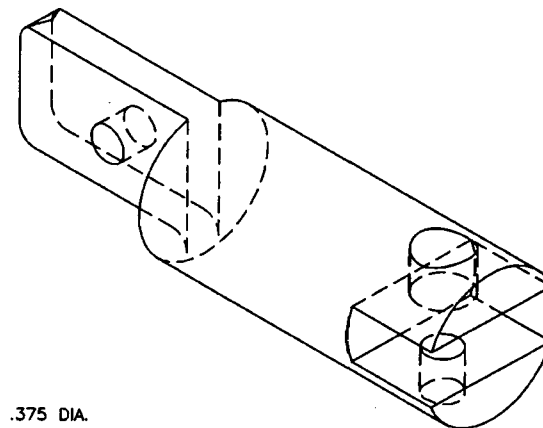
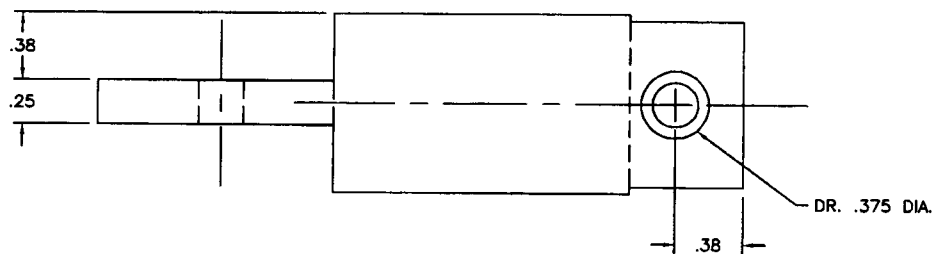
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



-005 PIVOT ARM

w/o 39814

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GOING DOES NOT APPLY TO VENDOR PARTS.

Era Aviation, Inc.

TITLE	SIZE	DWG. NO.	REV.
STEP "ACTUATOR" COMPONENTS	C	41232-200-002 SHT 3 OF 3	A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DATE 2/26/04	<b>ENGINEERING ORDER</b>	E.O. No. B-1	SHT. 1 OF 1
BY D. NELSON		DWG. AFFECTED 41232-200-002	
APPROVED BY	TITLE STEP ACTUATOR COMPONENTS	SHEET AFFECTED SHT 1 & 3	

REASON FOR CHANGE: CHANGED DASH NO. OF INSERT ON L/M; CHANGED INSERT CALLOUT ON -005 PIVOT ARM.

MINOR CHANGE - FAR 21.95

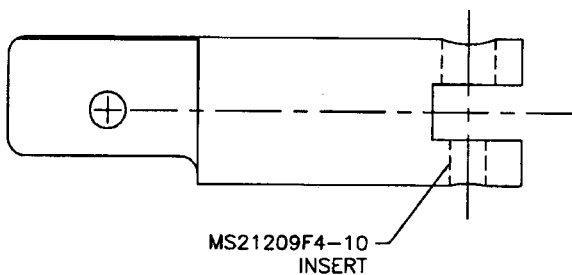
IS

1	MS21209F4-10	INSERT
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WAS

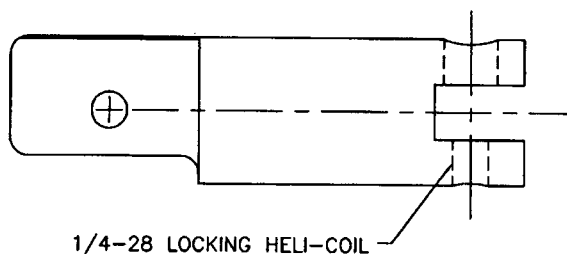
1	MS21209F4-15	INSERT
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IS



-005 PIVOT ARM

WAS



-005 PIVOT ARM

CHANGE REQUIRED:	DATE:	BY:	YES	NO
TRAVELER				
INSTALLATION INSTRUCTIONS				
MAINTENANCE INSTRUCTIONS				
ILLUSTRATED PARTS				
UNINCORPORATED DRAWING LIST				
MASTER DRAWING LIST				
COMPUTER DATA BASE				

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**L Lacelle**

---

**From:** dshepherd@dartaero.com**Sent:** July 27, 2010 3:24 PM**To:** L Lacelle**Subject:** Re: accident pics

I'm ok with this deviation.

Sent from my BlackBerry device on the Rogers Wireless Network

---

**From:** "L Lacelle" <llacelle@dartaero.com>**Date:** Tue, 27 Jul 2010 15:06:46 -0400**To:** 'David Shepherd' <dshepherd@dartaero.com>**Subject:** FW: accident pics

---

**From:** Specialty [mailto:specialty@cadorath.com]**Sent:** July 27, 2010 3:06 PM**To:** 'L Lacelle'**Subject:** RE: accident pics

Linda,

Type III class 2 is hard black anodizing. We can do it but cannot certify it (it's also not a true black color). We're not tested monthly for this type of anodizing. We are tested and certified for type 2 class 2 black anodizing a true black color.

Don

---

**From:** L Lacelle [mailto:llacelle@dartaero.com]**Sent:** Tuesday, July 27, 2010 1:27 PM**To:** 'Specialty'**Subject:** RE: accident pics

Mmmm,

This specific drwg reads type III for some reason, is there a big difference? Can you do type III ?

Thx

Linda

---

**From:** Specialty [mailto:specialty@cadorath.com]**Sent:** July 27, 2010 2:23 PM**To:** 'L Lacelle'**Subject:** RE: accident pics

Linda,

Just read your po black anodizing. The spec should read type 2 class 2. you have type 3 class 2.

Don

---

**From:** L Lacelle [mailto:llacelle@dartaero.com]

7/27/10

**Sent:** Tuesday, July 27, 2010 12:58 PM  
**To:** 'Specialty'  
**Cc:** joeca@hughes.net; 'Brigitte Golden'  
**Subject:** RE: accident pics

Hi,  
Please see attached P.o for the anodized parts. They will be shipping fedex overnight to you today.

Thx  
Linda

P.S....still no boxes, have you the tracking number?

---

**From:** Specialty [mailto:specialty@cadorath.com]  
**Sent:** July 22, 2010 1:39 PM  
**To:** 'L Lacelle'  
**Subject:** RE: accident pics

Linda,  
I'll have to look into the waybill. I wasn't here when they were picked up. And yes we do anodizing: black spec mil-a-8625f type II class II.  
Don

---

**From:** L Lacelle [mailto:llacelle@dartaero.com]  
**Sent:** Thursday, July 22, 2010 12:24 PM  
**To:** 'Specialty'  
**Subject:** RE: accident pics

Great, do you have a tracking number please?

Thx  
Linda

---

**From:** Specialty [mailto:specialty@cadorath.com]  
**Sent:** July 22, 2010 12:45 PM  
**To:** 'L Lacelle'  
**Subject:** RE: accident pics

Linda,  
These were picked up last Friday by Day and Ross.  
Don

---

**From:** L Lacelle [mailto:llacelle@dartaero.com]  
**Sent:** Thursday, July 22, 2010 11:38 AM  
**To:** 'Specialty'  
**Cc:** joeca@hughes.net; 'Leigh Hoffman'; 'Mel Mitchell'; 'Dave Haines'  
**Subject:** RE: accident pics

Hi all,  
Do you know if these have been shipped back to us yet? If so, please advise when they shipped out, if not, please advise when they will be shipping back to us.

7/27/10



Also, does Cadorath offer anodizing of small parts? Black Anodize per MIL-A-8625F, Type 1, IB, IC, II or IIB, class 2 ?

Thanks,  
Linda

---

**From:** Specialty [mailto:specialty@cadorath.com]  
**Sent:** July 16, 2010 11:54 AM  
**To:** 'L Lacelle'  
**Cc:** joeca@hughes.net; 'Leigh Hoffman'; 'Mel Mitchell'; 'Dave Haines'  
**Subject:** accident pics

Linda,  
Here's a few pics of the crates. Day and Ross is coming back to pick them up for delivery. You'll have to make the call on a claim or not.  
Don

7/27/10



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

\*\*\*PO REPRINT\*\*\*

Purchase Order ID PO12331

Purchase Order Date 7/27/10

PO Print Date 7/30/10

Page Number 1 of 1

Order From :

VC-CAD002

CADORATH PLATING  
2150 LOGAN AVE.  
WINNIPEG, MB R2R 0J2  
CA

Contact Name

Vendor Phone 204 633 9420

Vendor Fax 204 633 8033

Vendor Account Nbr

Buyer

Brigitte Golden

Requisition Nbr

Tax Resale Nbr 10127-2607

Terms

Net 30

Currency

CAD

FOB

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req. Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	59814	41232-200-002-001 Anodize	8/05/10 Yes	8.00	FedEx 2nd day	\$15.6250	\$125.00

Special Inst: Anodize In accordance with MIL-A-  
8625, Type II, Class 2 Dyed Black  
Per DWG: 41232-200-002 Rev A  
B# 59814

PO Total:

\$125.00

No substitution or deviation without  
consent.  
Certificate of Conformity or Material  
Certification required when applicable

Change Nbr: 9

Change Date: 7/30/10

# Packing Slip



## Cadorath Plating Co. Ltd.

2150 Logan Avenue, Winnipeg, Manitoba R2R-0J2

Phone: (204) 633-9420 Fax: (204) 633-8033

**INVOICE NUMBER:**

50657

Net 2% Interest Per Month charged on Overdue Accounts.

Any claims for shortages, overcharges, or damaged goods must be made within seven (7) days from receipt of goods.

Customer Order #:	Date Received:	Terms:	G.S.T. #:	Ship Via:	Ship Date:
PO12331	Jul-28-2010	NET 30 DAYS	10071 6547 RT0001		Jul-30-2010

Item # Qty P/N & Description

1	8 EA	BRACKET	S/N B# 59814
		P/N 41232-200-002-001	W/O 97344

**CERTIFICATE OF  
CONFORMANCE**

**CADORATH PLATING CO. LTD.  
2150 LOGAN AVENUE  
WINNIPEG, MANITOBA R2J-0J1**

**DATE:** Jul-30-2010

**CONSIGNED TO:** Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawksbury, ON K6A 1K7

**W/O #:** 97344  
**INVOICE #:** 50657

**CONTRACT OR  
PURCHASE ORDER #** PO12331

**DESCRIPTION:** BRACKET

**QTY** 8

**P/N #** 41232-200-002-001

**S/N #** B# 59814

**BLACK ANODIZED IAW MIL-A-8625F, TYPE 2, CLASS 2.**

*see Attached email for Acceptance from David's Shepherd*

*8/10/10*

**CERTIFICATE: I certify that the items indicated here on have  
been inspected and tested and conform to all specifications  
and requirements detailed on the contract or purchase order.**

**Approved Inspector:**



A large, stylized handwritten signature in black ink.

